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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,788	11/23/1999	NOBORU SUZUKI	1232-4600	4253

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EXAMINER	
HANNETT, JAMES M	
ART UNIT	**PAPER NUMBER**
2612	5

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/447,788	SUZUKI, NOBORU	
	Examiner	Art Unit	
	James M Hannett	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-21* is/are rejected.

7)☒ Claim(s) *2, 10, 11, and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 November 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1: Claims 1, and 3-21 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,754,895 Nishino.

2: In regards to Claim 1, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical apparatus having a drive circuit (12) for receiving speed data communicated from a unit (20) which sends the speed data representing speed information and controlling, on the basis of the information, the speed of a moving member which moves within a predetermined range (Lo), comprising

A determination circuit (20) which determines a driving speed on the basis of position data, the speed data, and a value representing an actual range of the predetermined range (Lo), the position data defining the predetermined range as a predetermined number different from a value indicating the actual range (L1) and representing the predetermined number as another value in accordance with a time required to move the moving member within the predetermined range wherein, the drive circuit drives the moving member at the driving speed determined by said determination circuit. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-

61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

3: As for Claim 3, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical apparatus having a drive circuit (12) for receiving speed data communicated from a unit (20) which sends the speed data representing speed information and controlling, on the basis of the information, the speed of a moving member which moves within a predetermined range (Lo), comprising

A determination circuit (20) which determines a driving speed on the basis of the speed data and position data representing the predetermined range as a predetermined number; and
A changing circuit which changes the number of position data representing the predetermined range as the predetermined number, in accordance with time information required to move the moving member within the predetermined range, wherein the drive circuit drives the moving member at a speed determined by the determination circuit. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

4: In regards to Claim 4, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical apparatus having a drive circuit (12) for receiving speed data communicated from a unit (20) which sends the speed data representing speed information and controlling, on the basis

of the information, the speed of a moving member which moves within a predetermined range, comprising

A determination circuit (20) which determines a driving speed on the basis of position data and the speed data, the position data representing the predetermined range as a predetermined number and the number as another value in accordance with a time for moving the moving member within the predetermined range, wherein the drive circuit drives the moving member at a speed determined by the determination circuit. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

5: As for Claim 5, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 the speed data represents a moving amount per unit time as a step number. Nishino teaches the step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes. The speed data represented by a step number is viewed by the examiner as the number of encoder pulses received by the microcomputer (20).

6: In regards to Claim 6, Nishino teaches on Columns 1 and 2, Lines 66-67 and 1-3 the position data represents the predetermined range as a step number.

7: As for Claim 7, Nishino teaches on Column 3, Lines 12-30 the speed control circuit determines the speed in accordance with a ratio of speed data and position data. The ratio is viewed as the comparison of the target number of pulses calculated by the target number of pulses calculated by the target pulse number calculating means with the predetermined distance.

8: In regards to Claim 8, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical unit (10) having a moving member moving within a predetermined range (Lo) and a drive circuit (12) for controlling a speed of the moving member, comprising

A determination circuit (20) which determines a speed of the moving member on the basis of position data representing the predetermined range as a predetermined step number and speed data representing a moving amount per unit time as the step number,

Wherein the step number of the position data representing the predetermined range is changed in accordance with a speed control state. The step number is viewed as the number of pulses received by the microcomputer that is frequency divided based on the required speed and travel distance of the lens. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

9: As for Claim 9, Nishino teaches the step number of the position data changes in accordance with time information required to move the moving member within the predetermined range. The step number is viewed as the number of pulses received by the

microcomputer that is frequency divided based on the required speed and travel distance of the lens. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

10: In regards to Claim 12, Nishino teaches on Column 3, Lines 12-30 the speed control circuit determines the speed in accordance with a ratio of speed data and position data. The ratio is viewed as the comparison of the target number of pulses calculated by the target number of pulses calculated by the target pulse number calculating means with the predetermined distance.

11: As for Claim 13, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical unit having a moving member moving within a predetermined range and a drive circuit for controlling a speed of the moving member, comprising:

A speed control circuit (20) which determines a speed of the moving member on the basis of position data representing the predetermined range as a predetermined step number and speed data representing a moving amount per unit time as the step number; and A communication unit which communicates the position data from an apparatus connected to the optical unit to the optical unit. Nishino teaches that the micro controller divides the total range into high speed and low speed regions. The speed is determined based on the current location of the lens the current speed of the lens and the total travel distance. The moving amount per unit time as the step number is viewed by the examiner as the number of pulses from the encoder per unit time.

12: In regards to Claim 14, Nishino teaches the step number of the position data changes in accordance with time information required to move the moving member within the predetermined range. The step number is viewed as the number of pulses received by the microcomputer that is frequency divided based on the required speed and travel distance of the lens. The time required to move the moving member or lens within the predetermined range is viewed by the examiner as the velocity of the lens. The step number changes when the driving velocity of the lens changes. Nishino teaches on Column 4, Lines 56-61 and on Column 5, Lines 3-30 that as the travel distance for the lens is increased the microcomputer will divide the number of encoder pulses to 1/N and that as the speed of the motor is changed the frequency division changes.

13: In regards to Claim 16, Nishino teaches on Column 3, Lines 12-30 the speed control circuit determines the speed in accordance with a ratio of speed data and position data. The ratio is viewed as the comparison of the target number of pulses calculated by the target number of pulses calculated by the target pulse number calculating means with the predetermined distance.

14: As for Claim 17, Nishino teaches on Column 4, Lines 50-55 the speed data is communicated from the apparatus. The apparatus is viewed as the microcomputer (20)

15: In regards to Claim 18, Nishino teaches the optical unit comprises a lens unit, and the apparatus comprises a camera. The Examiner views the lens as the optical unit and the microcomputer and circuitry as the camera.

16: As for Claim 19, Nishino teaches on Column 4, Lines 39-45 and Column 5, Lines 3-30 an optical unit having a moving member (1) moving within a predetermined range (Lo) and a drive circuit (12) for controlling a speed of the moving member, comprising

A determination circuit (20) which determines a speed of the moving member on the basis of position data representing the predetermined range as a predetermined step number and speed data representing a moving amount per unit time as the step number, Wherein the drive circuit drives the moving member at a speed determined by the determination circuit. Nishino teaches that the micro controller divides the total range into high speed and low speed regions. The speed is determined based on the current location of the lens the current speed of the lens and the total travel distance.

17: In regards to Claim 20, Nishino teaches the speed data is communicated from an apparatus connected to the optical unit. The apparatus is viewed by the examiner as the micro controller.

18: As for Claim 21, Nishino teaches the optical unit comprises a lens unit (1), and the apparatus comprises a camera.

Allowable Subject Matter

19: Claims 2, 10, 11, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2002/0080247 Takahashi et al; USPN 5,457,513 Uenaka teaches the use of an auto focusing device; USPN 5,498,944 Nakata teaches the use of an auto focus apparatus for a camera; USPN 5,572,279 Ohsawa teaches the use of a camera with a detachable lens barrel; USPN 5,799,214 Iwane; USPN 5,053,798 Ohara et al teaches the use of an auto focus device that

uses an encoder and a drive circuit; USPN 5,369,461 Hirasawa et al teaches the use of an auto focus device that uses an encoder and a drive circuit; USPN 5,654,757 Murakami et al; USPN 6,339,510 Taniguchi et al teaches the use of an auto focus device that uses an encoder and a drive circuit; USPN 6,167,201 Hara et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is 703-308-6789.

AUNG MOE
PRIMARY EXAMINER

James Hannett
Examiner
Art Unit 2612

JMH
October 10, 2003